REMARKS/ARGUMENTS

Claims 1-21 are pending in the present application. Claims 1, 7-8, 13-14, and 19-21 were amended. Reconsideration of the claims is respectfully requested.

I. Examiner Interview Summary

Applicants thank Examiner Abul K. Azad for the courtesies extended to Applicants' representatives during the October 3, 2006 telephone interview. During the interviews, Applicants' representatives discussed the distinction between claim 1 features and *Sears* and *Piehn* references. The Examiner agreed that the Applicants had identified good distinctions between the claims and the references. No agreement as to the allowability of the claims was reached during the telephone interview.

II. 35 U.S.C. § 103, Obviousness

The Examiner has rejected claims 1-21 under 35 U.S.C. § 103(a) as being unpatentable over *Sears* et al., Voice-output reading system with gesture-based navigation, United States Patent No. 6,115,482 (issued September 5, 2000) (hereinafter "*Sears*"), in view of *Piehn* et al., Voice enabled digital camera and language translator, United States Patent Application Publication No. US 2001/0056342 (published December 27, 2001) (hereinafter, "*Piehn*"). This rejection is respectfully traversed.

The Examiner has rejected claim 1 stating:

> Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sears et al. (US 6, 115,482) in view of Piehn et al. (US 2001/0056342).
>
> As per claim 1, Sears teaches, "a method in a portable device for transliterating text", the method comprising:
>
> "generating an image of the text using a camera function in the portable device" (col. 7, lines 23-65);
>
> "sending the image of source language and a target language to a transliteration service using a wireless communications link" (col. 15, lines 35-43 and col. 6, line 52 to col. 7, line 23);
>
> "receiving response from the transliteration service, wherein the response contains a transliteration of the text in the target language and wherein the transliteration contains a phonetic pronunciation of the text in the source language; and presenting the transliteration" (col. 7, lines 23-65).
>
> As per claim 1, Sears does not explicitly teach to identify of a source language and target language. However, Piehn teaches to identify of a source language and target language (Paragraph 0047). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use Piehn

> invention in the Sears invention because Piehn teaches his invention provide services the language translation needs of those in foreign language circumstances, as well as visually impaired needing assistance in reading words in their own, native language (Paragraph 0016).

Office action dated July 11, 2006, pp. 2-3.

II.A. <u>The Cited Combination of References Does Not Teach or Suggest all of the Features of Claims 1-21</u>

The Examiner has failed to state a *prima facie* obviousness rejection because the cited references used in proposed combination do not teach all of the features of claims 1-21 as believed by the Examiner.

Amended claim 1 recites:

> 1. A method in a portable device for transliterating text, the method comprising:
>
> generating an image of the text using a camera function in the portable device;
>
> sending the image with an identification of a source language and a target language to a transliteration service using a wireless communications link;
>
> receiving a response from the transliteration service, wherein the response contains a transliteration of the text in the target language and wherein the transliteration contains a phonetic pronunciation used to pronounce the text in the source language using characters in the target language; and
>
> presenting the transliteration.

Sears does not teach or suggest the feature "wherein the transliteration contains a phonetic pronunciation used to pronounce the text in the source language using characters in the target language" as recited in amended claim 1. *Piehn* in combination with *Sears* fails to teach or suggest this feature as well. Further, *Piehn* does not teach or suggest the step of "sending the image with an identification of a source language and a target language to a transliteration service" as found in amended claim 1, which the Examiner has conceded *Sears* does not teach.

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). In the case at hand, not all of the features of the claimed invention have been considered and the teachings of the references themselves do not suggest the claimed subject matter to a person of ordinary skill in the art.

The Examiner has cited the following section from *Sears* as teaching, "wherein the transliteration contains a phonetic pronunciation used to pronounce the text in the source language" feature of claim 1:

> The number of pixels to be obtained during image capture 51 is determined by the size of the area to be read, and the requirements of the optical character recognition (OCR) program. In general, the higher the pixel density, the better

> the accuracy of the OCR. It is preferred to have a pixel density of 125 pixels per inch (dpi), which is slightly less than most facsimile (FAX) machines, although pixel densities of 300 dpi or better provide even better OCR accuracy. In order to reach this pixel density, the image sensor 41 must have a sufficient number of pixels, and the optics of the lens 43 must allow a small FOV at short operating distances.
>
> The DVC-323 digital camera from Kodak (Rochester, N.Y.) has minimal but sufficient operating characteristics for the present invention. The camera operates in "still" mode, capturing images of 640 by 480 pixels with a "macro" image size of 4.7 by 3.5 inches, translating to about 140 dpi with the standard lens. The camera transfers the image to the host computer via a USB connection. It should also be noted, and will be discussed later, that the DVC-323 may also be operated in a video mode wherein the pixel density is lowered to 320 by 240 pixels, or less, in order to facilitate faster transfer of images through the USB connection.
>
> Video digitizing 53 includes analog-to-digital conversion, if it is not an integral part of the image sensor 41 (many CMOS sensors include integral analog-to-digital converters). Once the image is transferred to the main system 35, it can be digitally manipulated to make the input more appropriate for subsequent interpretation. For example, the signal may be converted from a color image to a gray-scale or binarized black-and-white image, since many OCR programs operate most effectively on such images. In addition, the image may be gain adjusted, despeckled, and otherwise manipulated to improve the image for subsequent processing.
>
> The optical character recognition step 55 is carried out in the main system 35 using standard OCR algorithms, such as those employed by the Tiger program of Cognitive Technology of Corte Madera, Calif. These programs not only convert the image to its text representation, but also identify the location of particular letters, the font sizes and styles used, and basic text formatting such as indenting and paragraph margins.

Sears, col. 7, ll. 23-65.

This cited section describes the details of an image capture feature. Here, *Sears* states that higher pixels per inch result in better resolution of the characters being imaged. *Sears* also elaborates on the affects of higher or lower image resolutions on optical character recognition (OCR) accuracy as well as transporting that data over USB to the connected computer.

Nothing in the cited section teaches or suggests anything relevant to including a phonetic pronunciation of the imaged text in the characters of a language other than the language of the imaged text. In fact, the entire disclosure of *Sears* is devoid of any teaching or suggestion of phonetic pronunciations in the characters of any language, much less any teaching or suggestion of the feature, "wherein the transliteration contains a phonetic pronunciation used to pronounce the text in the source language using characters in the target language" as recited in amended claim 1. *Piehn* also fails to teach or suggest this feature of amended claim 1 in the entire disclosure. Therefore, the combination of *Sears*

and *Piehn* fails to teach or suggest, "wherein the transliteration contains a phonetic pronunciation used to pronounce the text in the source language using characters in the target language" as recited in amended claim 1.

Next, the Examiner has cited following sections from *Piehn* as teaching, "sending the image with an identification of a source language and a target language to a transliteration service" feature of amended claim 1:

> [0047] Reference is now made to FIG. 4a and FIG. 4b, which illustrate the mode switches 13 of the present invention 28. FIG. 4a indicates the relative simplicity of the mode switch 13 for the visual-assist device with only one choice of language--the native language of the device as manufactured. FIG. 4b indicates the mode switch 13 for language translation device with the choice of languages.

Piehn, para. 0047.

The cited paragraph describes a language selection feature in *Piehn*'s device. The feature in *Piehn's* device is a physical switch that can assume one of two or three positions as illustrated in *Piehn's* figures 4a and 4b, which are reproduced below. *Piehn's* device is a language translation device in the form of a camera with audio capabilities. *Piehn's* user selects a language for the audio and textual translation of the text in a different language, at which the camera is pointed. The cited paragraph describes that the physical switch can allow the user of *Piehn's* device to select from one or two languages for the audio and video output of the translated text.

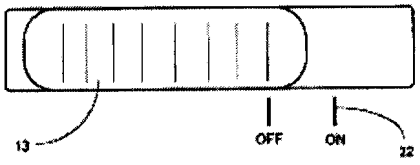

FIG. 4a

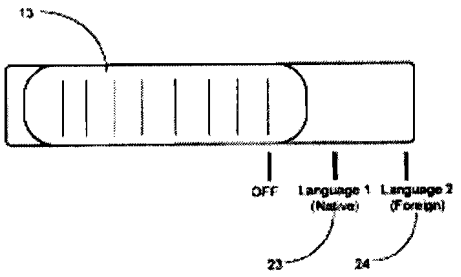

FIG. 4b

Piehn, figures 4a-4b.

The figures reproduced above show the physical language selection switch on the *Piehn* camera as described in the paragraph cited by the Examiner. Figures 4a and 4b show two variations of the language selection switch. Figure 4a shows a switch that has only one target language that the user can choose for the translation. When the switch is moved to the "on" position, the camera translates the text seen through the lens into the one and only available translation language. Figure 4b shows a two language variation of the same switch. There, the switch can be moved to a "Language 1" position for translation of the text seen through the lens in a first target language, and to a "Language 2" position for translation in a second target language.

This cited section and the other portions of *Piehn* fail to teach or suggest, "sending the image with an identification of a source language and a target language to a transliteration service" as recited in amended claim 1. The sending step of claim 1 sends an image with two identifiers – one identifying the source language used in the image being sent, and the other identifying the target language in which the transliterated result is desired. Even if, *arguendo*, the text seen through the lens of *Piehn* camera can be considered equivalent to the image as claimed, *Piehn's* language switch does not teach or suggest sending the identification of a source language. At best, the switch position may be an indication only of the target language but not of the source language, and a source language may be implied within the design of the *Piehn* device but not sent with the image as claimed. Furthermore, even the target language is preset by the position of the *Piehn's* switch, and therefore, not sent with the image as recited in amended claim 1.

Therefore, *Piehn* does not teach or suggest the claimed step of "sending the image with an identification of a source language and a target language to a transliteration service" as recited in amended claim 1. This proof, in combination with the Examiner's concession that *Sears* contains no teaching or suggestion of this claimed feature, *Sears* in view of *Piehn*, fails to teach or suggest this feature of claim 1.

For these reasons, *Sears* in view of *Piehn* does not make claim 1 obvious under 35 U.S.C. § 103(a). By the same reasoning, *Sears* in view of *Piehn* also does not teach or suggest all the features of independent claims 7-8, 13-14, and 19-21, which contain features similar to those in claim 1. Furthermore, at least because of their dependence from one of these independent claims, claims 2-6, 9-12, and 15-18 are also not made obvious by *Sears* in view of *Piehn*.

In addition, dependent claims contain additional features also not taught or suggested by the references. For example, claim 2 recites:

> The method of claim 1, wherein the transliteration containing the phonetic pronunciation of the text in the source language is characters in the target language and wherein the presenting step comprises:
> presenting the transliteration on a display in the portable device.

The references, either separately or in the proposed combination, do not teach or suggest "wherein the transliteration containing the phonetic pronunciation of the text in the source language is characters in the target language" as recited in claim 2. The Examiner has not cited to any sections in the *Sears* and *Piehn* references as teaching or suggesting this particular feature of claim 2. The Examiner's complete rejection of claim 2 is as follows:

> As per claim 2, *Sears* teaches, "presenting the transliteration on a display the portable device" (Fig. 2, element 17).

Office action dated July 11, 2006, p. 3.

Because a specific basis for rejection is not provided as to "wherein the transliteration containing the phonetic pronunciation of the text in the source language is characters in the target language" feature of claim 2, the Examiner has not made a *prima facie* case of obviousness against claim 2. Furthermore, the Examiner could not have cited to specific sections in the *Sears* and *Piehn* references, because no teaching or suggestion as to this feature is present in those references. As described with respect to claim 1 above, *Sears* in view of *Piehn* fail to teach the claim 1 feature, "wherein the transliteration contains a phonetic pronunciation used to pronounce the text in the source language using characters in the target language ." Claim 2 feature in question, "wherein the transliteration containing the phonetic pronunciation of the text in the source language is characters in the target language" recites additional details as to the corresponding claim 1 feature. Because the combination of references does not teach or suggest the claim 1 feature, the combination cannot teach or suggest a more detailed corresponding feature, such as the feature in claim 2.

As another example, the references also do not teach or suggest all features of dependent claim 4. The Examiner has rejected claim 4 stating:

> As per claim 4, Sears teaches, "wherein the transliteration service is located on a server on an Internet" (col. 7, lines 13-22 and col. 11, lines 15-26).

Office Action dated July 11, 2006, p. 3.

Claim 4 recites:

> The method of claim 1, wherein the transliteration service is located on a server on an Internet.

Contrary to the Examiner's assertion, *Sears* does not teach or suggest, "wherein the transliteration service is located on a server on an Internet" as recited in claim 4. The cited sections from *Sears* are as follows:

> It should be understood that the computer of the main system 35 may be part of a separate system, such as an office or home desktop computer. The use of such a general purpose computer greatly reduces the cost of a system of the present invention. Thus, only the imaging system and certain feedback output systems to

> be discussed later need to be provided to the user, and the main computing functions of the desktop computer (processor, power supply, motherboard functions, etc.), as well as input from microphones and output from speakers and video displays integrated with the computer can be used.

Sears, col. 7, ll. 13-22.

In this paragraph, *Sears* teaches that the processing of the optical character recognition and speech synthesis functions can be performed on a commonly available desktop computer. Here, *Sears* simply teaches that the imaging system can be detached from computing platform, and that the computing platform can be a commonly available computer. This paragraph teaches nothing with respect to the location of the computer being on the Internet as recited in claim 4. The Examiner additionally cites to the following section in *Sears*:

> In step 63, the speech selected in text selection 59 will be synthesized at a rate determined by speech rate adjustment 61. The means of synthesizing speech may include both software and hardware components. A preferred method of speech generation would use software programs such as Lernhout & Hauspie's Text-to-Speech (Burlington, Mass.). The output speech is encoded by the speech synthesis software in an appropriate format, such as 16-bit linear PCM encoding, and then output through a speaker 47 (see FIG. 1) located on the main system 35. If the user wishes for more privacy when operating the system, a jack 46 is provided into which headphones may be inserted.

Sears, col. 11, ll. 15-26.

This paragraph teaches how the speech will be synthesized in *Sears*' invention. *Sears* describes several options for performing this function, the options being commercially available solutions for speech synthesis. This paragraph also fails to teach or suggest that the computer can be on the Internet as recited in claim 4.

Sears' entire disclosure contains only a local apparatus for practicing *Sears*' invention. All the physical components in *Sears*, including the computer, are physically located together, albeit as separate boxes. Whether the boxes can be removed from each other such that one or more of them could be connected via the Internet, is not a simple conclusion to draw from Sear's teachings. When computers are connected over the Internet, the communication speed is typically much lower than that between locally connected computers. The reliability of the Internet based connection is also lower than that of a local connection. *Sears* does not state or suggest how these factors, among several others, affect *Sears*' disclosure.

Therefore, simply because *Sears* teaches that components of *Sears*' apparatus can be separated into locally connected boxes, a leap cannot be made that such boxes can then be connected over the Internet. *Piehn's* disclosure is also devoid of similar teachings or suggestion. Therefore, the combination of *Sears* and *Piehn* fails to teach or suggest, "wherein the transliteration service is located on a server on an Internet" as recited in claim 4.

As another example, the combination of references also does not teach or suggest all features of dependent claim 6. The Examiner has rejected claim 6 stating:

> As per claim 6, Sears teaches, "wherein the wireless communications link has a protocol using at least one of code division multiple access, time division multiple access, Blue Tooth, I.E.E.E. 802.11b, and I.E.E.E. 802.11g" (col. 6, lines 52-67).

Office Action dated July 11, 2006, p. 3.

Claim 6 recites:

> The method of claim 1, wherein the wireless communications link has a protocol using at least one of code division multiple access, time division multiple access, Blue Tooth, I.E.E.E. 802.11b, and I.E.E.E. 802.11g.

Contrary to the Examiner's assertion, *Sears* does not teach or suggest, "wherein the wireless communications link has a protocol using at least one of code division multiple access, time division multiple access, Blue Tooth, I.E.E.E. 802.11b, and I.E.E.E. 802.11g" as recited in claim 6. Additionally *Piehn* does not provide the missing teaching or suggestion for this feature. The cited sections from *Sears* are as follows:

> The step of image capture 51 can involve either color or black and white images. The advantage of color images is balanced by the higher data throughput required to transmit the image to the computing device present within the main system 35. Either CMOS or CCD sensors may be used for the image sensor 41, and are selected on the basis of cost, pixel density, noise and other variables. The image sensor may communicate through various means with the main system 35 computer, including parallel, universal serial bus (USB), IEEE 1394, or 16-bit (PCMCIA) or 32-bit (CardBus) connections, or through a special frame grabber which integrates directly with the system bus, preferably with a direct memory access (DMA) interface (e.g. Matrox Meteor cards from Matrox, Montreal, Canada). The choice of communications interface is made on the basis of cost, throughput, and DMA capabilities.

Sears, col. 6, ll. 52-67.

In this paragraph, *Sears* describes the various communication protocols that can be used for connecting the main system, the computer, of *Sears*' apparatus to the imaging unit. Here, *Sears* describes USB, parallel bus, PCMCIA card bus, or the system bus as the options through which to make such connections.

Notice that all the protocols described in *Sears* require the imaging unit to be physically connected to the computer. Each of the protocols described by *Sears* is a local data bus within a computer system. The USB, or Universal Serial Bus, requires a USB cable and the parallel bus requires a parallel cable to connect a peripheral and the computer. The system bus is similarly a physical connection of internal devices and peripherals to the computer system.

In contrast, claim 6 recites wireless communications, and code division multiple access, time division multiple access, Blue Tooth, I.E.E.E. 802.11b, and I.E.E.E. 802.11g" communication protocols. Notable, each recited protocol is remote, not physically connected, and not a bus-oriented protocol. Code division multiple access is a cellular protocol for mobile communications, therefore by definition, wireless and remote. Bluetooth, 802.11b/g are each networking protocols for short range and long range wireless networking, therefore by definition, also wireless and remote. Further, neither of the recited communication protocols is dependent on any specific bus architecture within a computer.

Based on the disclosed communication protocols and their applicability to *Sears'* invention in particular, an extrapolation that local physical bus-oriented communication can be replaced with remote wireless bus-less communication, is improper. The Examiner has made precisely this extrapolation in rejecting claim 6 based on the cited section from *Sears*. Additionally, no teaching or suggestion in *Piehn* fulfills this deficiency in *Sears*. As proven above, therefore, the combination of *Sears* and *Piehn* does not teach or suggest, "wherein the wireless communications link has a protocol using at least one of code division multiple access, time division multiple access, Blue Tooth, I.E.E.E. 802.11b, and I.E.E.E. 802.11g" as recited in claim 6.

II.B. The Examiner Has Not Stated a Proper Teaching, Suggestion or Motivation to Combine the References, and None Exists

In addition, a *prima facie* obviousness rejection against claim 1 has not been made because no proper teaching or suggestion to combine the references has been stated. A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). A proper *prima facie* case of obviousness cannot be established by combining the teachings of the prior art absent some teaching, incentive, or suggestion supporting the combination. *In re Napier*, 55 F.3d 610, 613, 34 U.S.P.Q.2d 1782, 1784 (Fed. Cir. 1995); *In re Bond*, 910 F.2d 831, 834, 15 U.S.P.Q.2d 1566, 1568 (Fed. Cir. 1990). No such teaching or suggestion is present in the cited references and the Examiner has not pointed out any teaching or suggestion that is based on the prior art.

Instead, the Examiner has only stated a proposed advantage to combining the references. However, an advantage is not necessarily a teaching, suggestion, or motivation. To constitute a proper teaching, suggestion, or motivation, the Examiner must establish that one of ordinary skill would both recognize the advantage and have a reason to implement the advantage.

In the case at hand, the Examiner has not provided a sufficient reason why one of ordinary skill would recognize the proposed advantage or have a reason to implement it. The Examiner states:

> it would have been obvious to one of ordinary skill in the art at the time of the invention to use Piehn invention in the *Sears* invention because Piehn teaches his

> invention provide services the language translation needs of those in foreign language circumstances, as well as visually impaired needing assistance in reading words in their own, native language (Paragraph 0016).

Office action date July 11, 2006, p. 3.

However, the proposed motivation does not actually exist because it is not just the motivation to combine, but motivation to combine to reach the claimed invention, that is required. *See, In re Bell.*

Piehn states:

> [0016] The present invention is a digital imaging apparatus, or appliance, with two operating modes. The extensible design of the present invention lends itself to dual-purpose utility as 1) a language-translating device and, 2) a reading assistant for the visually impaired. The present invention serves the language translation needs of those in foreign language circumstances, as well as the visually impaired (visually handicapped) needing assistance in reading words in their own, native language. The present invention is multi-functional in that is converts physical text to speech in either native or foreign language(s). This present invention is most unique in its language translation ability.

Piehn, para. 0016.

Piehn teaches an apparatus for language translation and a reading assistant for visually impaired. *Piehn's* device translates the text seen through the device's lens into audio and visual content in a different language.

Sears states:

> An optical-input print reading device with voice output for people with impaired or no vision in which the user provides input to the system from hand gestures. Images of the text to be read, on which the user performs finger- and hand-based gestural commands, are input to a computer, which decodes the text images into their symbolic meanings through optical character recognition, and further tracks the location and movement of the hand and fingers in order to interpret the gestural movements into their command meaning. In order to allow the user to select text and align printed material, feedback is provided to the user through audible and tactile means. Through a speech synthesizer, the text is spoken audibly. For users with residual vision, visual feedback of magnified and image enhanced text is provided.

Sears, abstract.

Sears teaches a reading device that accepts as input the text being pointed to by a visually impaired reader's finger. *Sears'* device then either reads the text using speech synthesis, or enlarges the text on a screen for the reader. *Sears'* device involves no language translation features.

To the extent that the *Sears* and *Piehn* references are relevant for combining with each other, they are common only in providing a speech rendition of a source text in the source language for the visually impaired reader. One of ordinary skill in the art will not combine *Sears* and *Piehn* for reaching the features of claim 1, which relates to transliteration of an image from a source language in the image to a desired target language.

Furthermore, the motivation to combine should come from the reference itself. *See, In re Bell, In re Napier.* The Examiner, in combining the references as in the instant office action, appears to suggest that *Piehn's* system, when combined with *Sears'* system, may provide transliteration of an image from a source language to a target language. However, *Sears'* invention does not suggest a need for such transliteration simply because translation from one language to another is not the problem in *Sears'* invention.

Sears is clear in the objective of the invention, which is to facilitate reading of a text in the source language of the text to a reader with impaired or no vision. According to the above section, *Sears* teaches a method and apparatus by which such a reader can read the text enlarged on a screen, or hear the text read out to the reader, based on the positioning of the readers fingers on the text. The mismatch of the language of the source text and the language understood by the reader is not a consideration in *Sears* and therefore the problem of transliteration or audio translation dos not arise in *Sears*.

In the proposed combination, *Piehn* is combined with *Sears* to solve a non-existent problem in *Sears*. Because *Sears* does not disclose a problem that *Piehn* can solve, *Sears* does not provide the motivation for combining the two references as proposed by the Examiner. Accordingly, the Examiner has failed to state a *prima facie* obviousness rejection against claim 1. By the same reasoning, a *prima facie* case of obviousness is not established against claims 2-21 as well.

II.C. Summary of Why the Examiner Has Failed to State a *Prima Facie* Obviousness Rejection Against Claims 1-21

In general, the Examiner appears to proceed from the false assumption that just because individual elements of a claimed invention can be found in two or more references, combining the references would automatically render the claimed invention obvious to one of ordinary skill. In fact, that vast bulk of patentable inventions is derived from combinations of elements that can be found in the prior art.

In the case at hand, the Examiner has failed to state a *prima facie* obviousness rejection for the following reasons: The proposed combination does not teach or suggest all of the features of claims 1-21; and the Examiner has not stated a proper teaching, suggestion or motivation to combine the references, and none exist. Therefore, the rejection against claims 1-21 under 35 U.S.C. § 103(a) has been overcome.

III. Conclusion

It is respectfully urged that the subject application is patentable over *Sears* and *Piehn*, and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: October 10, 2006

Respectfully submitted,

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